CLAIMS

What is claimed is:

1. A method for generating a shadow effect for objects in a graphical user interface, the method comprising:

displaying a first object; and

displaying a second object, wherein a portion of a drop shadow from the first object is shown on the second object, and wherein the portion of the drop shadow from the first object is displaced from the first object in direct proportion to a z-depth difference between the first object and the second object.

2. The method of claim 1, wherein the graphical user interface is a layered graphical user interface.

3. The method of claim 1 further comprising:

receiving user input within the graphical user interface to vary the z-depth difference between the first object and the second object.

4. A computer program product in a computer-readable medium for use in a data processing system for generating a shadow effect for objects in a graphical user interface, the computer program product comprising:

instructions for displaying a first object; and

instructions for displaying a second object, wherein a portion of a drop shadow from the first object is shown on the second object, and wherein the portion of the drop shadow from the first object is displaced from the first object in direct proportion to a z-depth difference between the first object and the second object.

5. The computer program product of claim 4, wherein the graphical user interface is a layered graphical user interface.

6. The computer program product of claim 4 further comprising:

instructions for receiving user input within the graphical user interface to vary the z-depth difference between the first object and the second object.

7. An apparatus for generating a shadow effect for objects in a graphical user interface, the apparatus comprising:

means for generating a first object;

means for generating a second object, wherein a portion of a drop shadow from the first object is shown on the second object, and wherein the portion of the drop shadow from the first object is displaced from the first object in direct proportion to a z-depth difference between the first object and the second object; and

means for displaying the first object and the second object.

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8. A method for generating a shadow effect for objects in a graphical user interface, wherein the graphical user interface simulates a three-dimensional coordinate space by displaying objects whose dimensions are computed in the three-dimensional coordinate space, the method comprising:

generating a shadow object corresponding to a first object;

determining an occluding region of the shadow object that partially occludes an illumination of a second object;

computing a z-dimensional difference value between a z-value of the first object and a z-value of the second object;

calculating a translation value that is directly proportional to the computed z-dimensional difference value;

translating the occluding region of the shadow object along an x-dimension or a y-dimension within the three-dimensional coordinate space in accordance with the calculated translation value; and

displaying the first object, an unoccluded portion of the second object, and the occluding region of the shadow object on a display device.

9. The method of claim 8, wherein the first object, the unoccluded portion of the second object, and the occluding region of the shadow object are rendered into a bitmap prior to displaying on the display device.

10. The method of claim 8, further comprising:

displacing the occluding region of the shadow object along a first dimension of the three-dimensional coordinate space by a displacement distance, wherein the occluding region of the shadow object is translated along a second dimension of the three-dimensional coordinate space that differs from the first dimension.

11. The method of claim 8, wherein the displacement distance is determined in accordance with a position in the three-dimensional coordinate space of a simulated light source.

12. The method of claim 8, wherein the displacement distance is determined in accordance with user-specified configuration parameters.

13. The method of claim 8, wherein the shadow object is transparent.

14. The method of claim 8, wherein the shadow object is generated in accordance with user-specified configuration parameters.

15. The method of claim 8, wherein the shadow object is subjected to a diffusion filter.

16. The method of claim 8, wherein the shadow object has a substantially same size as the first object.

17. The method of claim 8, wherein the shadow object has a substantially same shape as the first object.

18. The method of claim 8, wherein the objects are two-dimensional planar objects within the three-dimensional coordinate space, wherein the objects are parallel to an x-y plane in the three-dimensional coordinate space, wherein the objects may be translated along either of a set of three dimensions in the three-dimensional coordinate space but not rotated about an x-axis in the three-dimensional coordinate space or about a y-axis in the three-dimensional coordinate space.

19. A computer program product in a computer-readable medium for use in a data processing system for generating a shadow effect for objects in a graphical user interface, wherein the graphical user interface simulates a three-dimensional coordinate space by displaying objects whose dimensions are computed in the three-dimensional coordinate space, the computer program product comprising:

instructions for generating a shadow object corresponding to a first object;

instructions for determining an occluding region of the shadow object that partially occludes an illumination of a second object;

instructions for computing a z-dimensional difference value between a z-value of the first object and a z-value of the second object;

instructions for calculating a translation value that is directly proportional to the computed z-dimensional difference value;

instructions for translating the occluding region of the shadow object along an x-dimension or a y-dimension within the three-dimensional coordinate space in accordance with the calculated translation value; and

instructions for displaying the first object, an unoccluded portion of the second object, and the occluding region of the shadow object on a display device.

20. The computer program product of claim 19, wherein the first object, the unoccluded portion of the second object, and the occluding region of the shadow object are rendered into a bitmap prior to displaying on the display device.

21. The computer program product of claim 19, further comprising:

instructions for displacing the occluding region of the shadow object along a first dimension of the three-dimensional coordinate space by a displacement distance, wherein the occluding region of the shadow object is translated along a second dimension of the three-dimensional coordinate space that differs from the first dimension.

22. The computer program product of claim 19, wherein the displacement distance is determined in accordance with a position in the three-dimensional coordinate space of a simulated light source.

23. The computer program product of claim 19, wherein the displacement distance is determined in accordance with user-specified configuration parameters.

24. The computer program product of claim 19, wherein the shadow object is transparent.

25. The computer program product of claim 19, wherein the shadow object is generated in accordance with user-specified configuration parameters.

26. The computer program product of claim 19, wherein the shadow object is subjected to a diffusion filter.

27. The computer program product of claim 19, wherein the shadow object has a substantially same size as the first object.

28. The computer program product of claim 19, wherein the shadow object has a substantially same shape as the first object.

29. The computer program product of claim 19, wherein the objects are two-dimensional planar objects within the three-dimensional coordinate space, wherein the objects are parallel to an x-y plane in the three-dimensional coordinate space, wherein the objects may be translated along either of a set of three dimensions in the three-dimensional coordinate space but not rotated about an x-axis in the three-dimensional coordinate space or about a y-axis in the three-dimensional coordinate space.

30. An apparatus for generating a shadow effect for objects in a graphical user interface, wherein the graphical user interface simulates a three-dimensional coordinate space by displaying objects whose dimensions are computed in the three-dimensional coordinate space, the apparatus comprising:

means for generating a shadow object corresponding to a first object;

means for determining an occluding region of the shadow object that partially occludes an illumination of a second object;

means for computing a z-dimensional difference value between a z-value of the first object and a z-value of the second object;

means for calculating a translation value that is directly proportional to the computed z-dimensional difference value;

means for translating the occluding region of the shadow object along an x-dimension or a y-dimension within the three-dimensional coordinate space in accordance with the calculated translation value; and

means for displaying the first object, an unoccluded portion of the second object, and the occluding region of the shadow object on a display device.

31. The apparatus of claim 30, wherein the first object, the unoccluded portion of the second object, and the occluding region of the shadow object are rendered into a bitmap prior to displaying on the display device.

32. The apparatus of claim 30, further comprising:

means for displacing the occluding region of the shadow object along a first dimension of the three-dimensional coordinate space by a displacement distance, wherein the occluding region of the shadow object is translated along a second dimension of the three-dimensional coordinate space that differs from the first dimension.

33. The apparatus of claim 30, wherein the objects are two-dimensional planar objects within the three-dimensional coordinate space, wherein the objects are parallel to an x-y plane in the three-dimensional coordinate space, wherein the objects may be translated along either of a set of three dimensions in the three-dimensional coordinate space but not rotated about an x-axis in the three-dimensional coordinate space or about a y-axis in the three-dimensional coordinate space.